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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/740,737	12/18/2000	Giampiero Maggioni	856063.677	4179

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EXAMINER

GONZALEZ, JULIO C

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 11/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/740,737	Applicant(s) MAGGIONI ET AL.	
	Examiner Julio C. Gonzalez	Art Unit 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5,7,8 and 11-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,7,8 and 11-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 December 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 12 August 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to because the claim 4 discloses that the control unit receives a regulated voltage signal, but from figure 5, the signal is sent from the regulator 13 to the alternator 11, not to the control unit 14. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-5,7,8 and 11-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, the claim may imply that the control signal receives a signal directly from the alternator since it is disclosed that the control unit is able to receive a regulated voltage signal from the alternator without receiving a phase signal from the alternator. Respectfully, there is no mention of a *device* directly sending the

signal (e.g. voltage regulator) to the control unit, instead of the alternator being mention to send the signal to the control unit.

In claim 3, to what device is the voltage regulator sending the signal to? From figure 5, it may seem as if the voltage regulator 13 is sending the signal to the alternator 11 and not to the control unit 14.

In claim 4, the control unit is disclosed to receive a regulated voltage signal, but from the figures, the signal is outputted from the alternator and back to the voltage regulator 13. The signal is never sent to the control unit 13.

In order to advance prosecution in the merits, the Prior Art will be applied as best understood by the examiner.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-4, 7, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable by Maruyama et al in view of Kohl et al and Swanson et al.

Maruyama et al discloses a voltage regulator 3, a control unit 6, a thermal engine 100, an alternator 21 wherein the control unit 6 is connected between the thermal engine 100 and the voltage regulator 3 (see figure 1). Also, the control unit supplies the voltage regulator with a square wave signal (see figures 3, 4C, 4D, 4F).

However, Maruyama et al does not disclose explicitly having a system wherein the engine operation state may be used in controlling a voltage regulation.

On the other hand, Kohl et al discloses for the purpose of enabling the deactivation of the load responses upon rpm reduction with a simple circuit, a voltage regulator 22, a control unit 26 and wherein the voltage regulation is controlled by using the rpm of the engine (see claim 6).

However, neither Maruyama et al nor Kohl et al disclose explicitly that the signal from the alternator may be sent to a regulator and then to a control unit.

On the other hand, Swanson et al teaches for the purpose of improving over voltage regulation and protection to generators that it is well known in the art to use a phase signal from an alternator 180 and sent that signal to a regulator 150 and in turn supply a regulated signal to a control unit 130 (see figure 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design a voltage regulating device as disclosed by Maruyama et al and to have the rpm of the engine affect the regulating voltage for the purpose of enabling the deactivation of the load responses upon rpm reduction with a simple circuit as disclosed by Kohl et al and to sent a signal from the alternator through a regulator and then to a control unit for the purpose of improving over voltage regulation and protection to generators as disclosed by Swanson et al.

6. Claim 5, 8 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maruyama et al, Kohl et al and Swanson et al as applied to claims 1, 2 and 12 above, and further in view of Iwatani et al.

The combined voltage regulating device discloses all of the elements above. However, the combined voltage regulating device does not disclose explicitly using sensors.

On the other hand, Iwatani discloses for the purpose of increasing the efficiency of fuel for vehicles and quickly charging the battery, a plurality of switches and buffers been used in a voltage regulator 3A (see figure 1). Also,

sensors are used (see figure 1), which are dependent on the state of the engine (column 4, lines 66, 67).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the combined voltage regulating device as disclosed above and to modify the invention by using a plurality of sensors for the purpose of increasing the efficiency of fuel for vehicles and quickly charging the battery as disclosed by Iwatani.

Response to Arguments

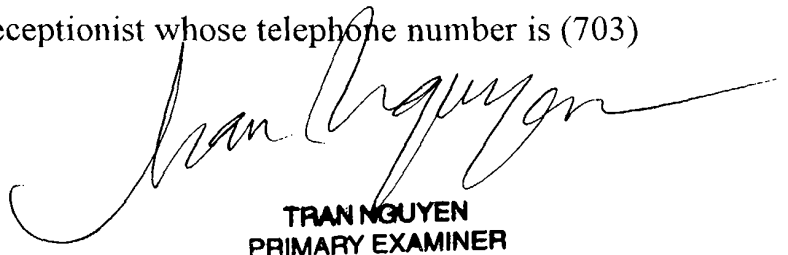
10. Applicant's arguments with respect to claims 1-5,7,8 and 11-13 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julio C. Gonzalez whose telephone number is (703) 305-1563. The examiner can normally be reached on M-F (8AM-5PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



TRAN NGUYEN
PRIMARY EXAMINER

Jcg

October 24, 2003